UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/544,196	04/06/2000	Kam Chan	2705-94	8932

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EXAMINER
MOORE, IAN N

ART UNIT	PAPER NUMBER
2661	

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/544,196	CHAN ET AL.
	Examiner	Art Unit	
	Ian N. Moore	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *30 November 2005*.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-29* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-29* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a) ☐ All   b) ☐ Some *   c) ☐ None of:

   1. ☐ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____.

   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Specification

1.   The abstract of the disclosure is objected to because it contains the phrase, "**invention**" in

line 2, which can be implied. Applicant is reminded of the proper language and format for an

abstract of the disclosure. Correction is required. See MPEP § 608.01(b).

It should avoid using phrases which can be implied, such as, "The disclosure concerns,"
"The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

3.   Claims 1-4, 7-25 and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Shaffer (US 6,411,601) in view of Bauer (US006711129B1).

With regard to claims 1, 3, 7, 24 and 28, Shaffer discloses that step 70 determines the

resource requirements specified in a call request, as illustrated by Figure 4. The resource

requirements include DSP resources (CPU utilization value). In step 72, the resource availability

monitor 42 (processor / gauging software) determines the level of available resources (CPU

utilization threshold). At decision step 74, the resource availability monitor 42 determines

(comparing) whether the required level of any resource specified in the call request is above the

corresponding availability level for the network resource (column 6, line 57 - column 7, line 4).

In the event that a call request specifies a requested network resource level above the

corresponding availability levels (larger than the threshold), a resource reservation mechanism 46 (and FIG. 4, step 74=Y, requirement unsatisfied =Y notification/indication/flag is set; note that when require resource > available resource, unsatisfied notification/indication/flag is triggered/set, which indicates a unsatisfactory call software to accept or answer) is invoked, and the call may be placed in a DSP resource queue (column 7, lines 8-12 and 15-20).

Shaffer does not explicitly disclose a refusal.

However, refusing/rejecting the call due to congestion indication is well known and established in the art. In particular, Bauer teaches a processor (see FIG. 1, a combined system of memory 130 and CPU 121) setting a call deny flag (see FIG. 2, step 213, 219, and 221; unsatisfied/reject or satisfy=N0 notification/indication/flag) when the present CPU utilization value is larger than the CPU utilization threshold (see FIG. 3, step 213 with NO, since request minimum acceptable resources is larger/greater than available resources, the requested resources can not be satisfied); see col. 5, line 25-40; see col. 7, line 1-12) and

the processor detecting an incoming call (see FIG. 3, step 201, a new service request) and indicating- refusal of the incoming call to the incoming call caller without answering the incoming call when the deny flag is set (see FIG. 2, step 212,219,221; rejecting a new service request when unsatisfied/reject or satisfy=N0 notification/indication/flag); see col. 5, line 25-40; see col. 7, line 1-12. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide refusal/rejection due to congestion indication, as taught by Bauer in the system of Bauer, so that it would control the utilization of resources in real time; see Bauer col. 3, line 4-20.

With regard to claim 15, Shaffer discloses that step 70 determines the resource

requirements specified in a call request, as illustrated by Figure 4. The resource requirements

include DSP resources (CPU utilization value). In step 72, the resource availability monitor 42

(processor) determines the level of available resources (CPU utilization threshold). At decision

step 74, the resource availability monitor 42 determines whether the required level of any

resource specified in the call request is above the corresponding availability level for the network

resource (column 6, line 57 -column 7, line 4): In the event that availability of all requested

resources is above their requested levels, the call setup subsystem 48 establishes the call in step

84 (answer the incoming call) (column 7, lines 4-7). In the event that a call request specifies a

requested network resource level above the corresponding availability levels (larger than the

threshold), a resource reservation mechanism 46 (and FIG. 4, step 74=Y, requirement unsatisfied

=Y notification/indication/flag is set; note that when require resource > available resource,

unsatisfied notification/indication/flag is triggered/set, which indicates a unsatisfactory call

software to accept or answer) is invoked, and the call may be placed in a DSP resource queue

(column 7, lines 8-12 and 15-20).

Shaffer does not explicitly disclose a refusal.

However, refusing/rejecting the call due to congestion indication is well known and

established in the art. In particular, Bauer teaches a processor (see FIG. 1, a combined system of

memory 130 and CPU 121) setting a call deny flag (see FIG. 2, step 213, 219, and 221;

unsatisfied/reject or satisfy=N0 notification/indication/flag) when the present CPU utilization

value is larger than the CPU utilization threshold (see FIG. 3, step 213 with NO, since request

minimum acceptable resources is larger/greater than available resources, the requested resources can not be satisfied); see col. 5, line 25-40; see col. 7, line 1-12) and

the processor detecting an incoming call (see FIG. 3, step 201, a new service request) and indicating- refusal of the incoming call to the incoming call caller without answering the incoming call when the deny flag is set (see FIG. 2, step 212,219,221; rejecting a new service request when unsatisfied/reject or satisfy=N0 notification/indication/flag); see col. 5, line 25-40; see col. 7, line 1-12. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide refusal/rejection due to congestion indication, as taught by Bauer in the system of Bauer, so that it would control the utilization of resources in real time; see Bauer col. 3, line 4-20.

With regard to claims 2, 4, 16 and 25, Shaffer discloses that in step 72, the resource availability monitor 42 determines the level of available resources (CPU utilization threshold) (column 6, lines 65-67).

However, setting resource requirements, including processing resources (CPU utilization value), to a value lower that the maximum available so as to prevent the processor form working at 100% capacity so as to leave some processor capacity as a reserve is well known and established in the art. In particular, Bauer discloses that resource requirements, including processing resources (CPU utilization value), is set to a value lower that the maximum available (see col. 6, line 63 to col. 7, line 1-6; 94 MIPS) so as to prevent the processor form working at 100% capacity (see col. 6, line 63 to col. 7, line 1-6; 100 MIPS) so as to leave some processor capacity as a reserve (see col. 6, line 63 to col. 7, line 1-6; 100-94=6 MIPS).

Therefore, it would have been obvious to one having ordinary skill in the art at the time

the invention was made to provide refusal/rejection at lower threshold than total capacity, as

taught by Bauer in the system of Bauer, for the same motivation as stated above in claims 1, 3, 7,

24 and 28.

With regard to claim 8 and 29, Shaffer discloses that step 70 determines (updated) the

resource requirements specified in a call request (incoming call/ring flag), as illustrated by

Figure 4. The resource requirements include DSP resources (CPU utilization value) (column 6,

lines 57-63). Bauer also discloses when a new call request/ring notification/indication/flag is

received, determining/updating the processor resources (see FIG. 2; see col. 5, line 25-40; see

col. 7, line 1-12).

With regard to claims 9 and 17, Shaffer discloses the CPU utilization threshold is set to

about a pre-specified percent of the total available processing capacity of the gateway (column 6,

lines 57-63; in order to have any optimal characteristics, Shaffer faced the same tradeoff between

sound quality and call volume, and thus Shaffer must set the processing threshold to a pre-

specified percentage). Bauer also discloses the CPU utilization threshold is set to about a pre-

specified percent of the total available processing capacity of the gateway (see col. 6, line 63 to

col. 7, line 1-6).

With regard to claims 10, 11, 18 and 19, Shaffer discloses that step 70 determines

(updating) the resource requirements specified in a call request (incoming call/ ring flag), as

illustrated by Figure 4. The resource requirements include DSP resources (CPU utilization value)

(column 6, lines 57-63). Bauer also discloses when a new call request/ring

notification/indication/flag is received, determining/updating the processor resources (see FIG. 2; see col. 5, line 25-40; see col. 7, line 1-12).

With regard to claims 12 and 20, Shaffer discloses decision step 74 in which the resource availability monitor 42 determines (determines) whether the required level of any resource specified in the call request is above the corresponding availability level for the network resource (column 6, line 57 - column 7, line 4). Bauer also discloses the processor detects a ring signal for the incoming call and determines whether or not to refuse the incoming call prior to answering the ring signal (see FIG. 2-3, see col. 5, line 1-65; see col. 7, line 1-11).

With regard to claim 13 and 21, Shaffer discloses in the event that a call request specifies a requested network resource level above the corresponding availability levels, a resource reservation mechanism 46 (indicating busy signal) is invoked, and the call may be placed in a DSP resource queue (column 7, lines 8-12 and 15-20). Bauer discloses refusing the incoming call by generating a busy signal (see FIG. 2, step 221; see col. 5, line 30-40).

With regard to claims 14 and 22, Bauer discloses the processor does not place refused calls in a queue (see FIG. 2, see col. 5, line 30-40; no queues to store call). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide refusal/rejection at lower threshold than total capacity, as taught by Bauer in the system of Bauer, for the same motivation as stated above in claims 1, 3, 7, 24 and 28.

With regard to claim 23, Shaffer the call may be placed in a DSP resource queue (places accepted calls in a queue) (column 7, lines 15-20).

4.   Claims 5, 6, 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Shaffer in view of Bauer, as described above in claims 3 and 24, and further in view of Grewal

(US005592672A).

With regard to claims 5 and 26, the combined system of Shaffer and Bauer discloses

determining a CPU utilization threshold for a CPU as described above in claims 3 and 24.

Neither Shaffer nor Bauer expressly discloses a bank of CPUs. However, having plurality

of CPUs or bank of CPUs in the system is well known and established in the art. Grewal

discloses determining and distributing in a bank of CPUs (see FIG. 2, plurality of processors 30

and 32 for processing the calls; see col. 4, line 10-26) Therefore, it would have been obvious to

one having ordinary skill in the art at the time the invention was made to plurality of CPUs, as

taught by Grewal in the system of Grewal, so that it would balance the outgoing load; see Grewal

col. 3, line 29-50; and by having more than one CPU, it would increase the processing capacity

and capability.

Moreover, having a bank of CPUs does not define a patentable distinct over that in the

combined system since both invention as a whole and the combined system are directed to

processing the calls. The degree in which having a bank of CPUs presents no new or unexpected

results. If one has one CPU, it will be provide processing capacity and capability, and if one has

more than one CPU (i.e. bank of CPUs), it will provide more processing capacity and capability.

Therefore, to have a bank of CPUs that process the calls would have been routine

experimentation and optimization in the absence of criticality.

With regard to claims 6 and 27, Bauer disclose setting command, and saving an aspect

of the setting command in the memory (see FIG. 2, memory 130; see col. 4, line 40-46; see col.

5, line 20-30). The combined system of Shaffer, Bauer and Grewal may have selected anyone of

a variety of memory devices, including an NVRAM, to prevent the loss of information when

power is lost since it would be impossible to manually enter the instruction every time there is

power lost.

Response to Arguments

5.   Applicant's arguments filed 12/9/2005 have been fully considered but they are not

persuasive.

Regarding claims 1-29, the applicant argued that, "...neither the Shaffer nor Bauer

reference makes use of a "utilization threshold"...neither the system shown in the Shaffer nor the

system shown in Bauer refuses to accept a call when a utilization threshed is exceeded..." see

page 8, paragraph 4; page 9, last two paragraphs.

In response to applicant's arguments against the references individually, one cannot

show nonobviousness by attacking references individually where the rejections are based on

combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re*

Merck & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, the rejection is based

on the combined system of Shaffer and Bauer.

In response to applicant's argument, the examiner respectfully disagrees with the

argument above. Shaffer discloses the resource requirements include DSP resources (**CPU**

utilization value). In step 72, the resource availability monitor 42 (processor / gauging software)

determines the level of available resources (**CPU utilization threshold**). At decision step 74, the

resource availability monitor 42 determines (comparing) whether the required level of any

resource specified in the call request is above the corresponding availability level for the network resource (column 6, line 57 - column 7, line 4). Moreover, Shaffer discloses a resource reservation mechanism 46 (and FIG. 4, step 74=Y, requirement unsatisfied =Y notification/indication/flag is set; note that when require resource > available resource, unsatisfied notification/indication/flag is triggered/set, which indicates a unsatisfactory call software to accept or answer) is invoked.

Bauer discloses teaches a processor (see FIG. 1, a combined system of memory 130 and CPU 121) setting **a call deny flag** (see FIG. 2, step 213, 219, and 221; unsatisfied/reject or satisfy=N0 notification/indication/flag) when the present CPU **utilization value is larger than the CPU utilization threshold** (see FIG. 3, step 213 with NO, since request minimum acceptable resources is larger/greater than available resources, the requested resources can <u>not</u> be satisfied); see col. 5, line 25-40; see col. 7, line 1-12) and the processor detecting an incoming call (see FIG. 3, step 201, a new service request) and **indicating- refusal of the incoming call to the incoming call caller without answering the incoming call when the deny flag is set** (see FIG. 2, step 212,219,221; rejecting a new service request when unsatisfied/reject or satisfy=N0 notification/indication/flag); see col. 5, line 25-40; see col. 7, line 1-12.

Thus, the combined system of Shaffer and Bauer clearly discloses the claimed invention as set forth above.

Regarding claims 1-29, the applicant argued that, "...Bauer reference specifically states at col. 2, lines 36-37 that "the present invention does not rely on pre-determined threshold limits". Thus, the Bauer reference specifically teaches away from the user of a "utilization threshold"..." see page 8, paragraph 1-2, 4.

In response to applicant's argument, the examiner respectfully disagrees with the

argument above. First, Bauer teaching is used to provide the "a refusal/rejection" which Shaffer

lacks (see page 3, last paragraph of previous office action), **not** for "utilization threshold" as

argued by the applicant. Moreover, the rejected claims broadly recites "utilization threshed", and

the rejected claim do <u>not</u> recite how such utilization threshold is defined/determined (i.e. in real

time or fixed/predetermine). Thus, the argument of Bauer teaching away from the user of

utilization threshold is irrelevant.

Moreover, the applicant is <u>only</u> citing <u>a portion/subset</u> of Bauer reference, where in fact,

Bauer clearly teaches "utilization threshold" in col. 2, lines 33-54 states as follows:

In accordance with the principles of the present invention, a real-time admission control
scheme is proposed. The real-time admission control scheme of the present invention does not
rely on pre-determined threshold limits. **Instead, <u>the current resource utilization</u> is evaluated
in real time and admission control decisions are based on this real-time evaluation.**
In the present invention, as soon as a new service request is received, a real-time
evaluation of **the current resource utilization of each active task** (i.e., in all classes, not just
the corresponding class) that consumes resources is made. These tasks include the scheduled
service requests (e.g., point-to-point calls, conference calls) as well as failure recovery functions.
Then, total resource utilization is computed by summing the resource utilization of each active
task. Accordingly, a measure of the available system resources is computed. For example, if **the
total resource utilization indicates that 50 MIPS are currently being used out of total usable
150 MIPS, then the measure of the available system resources is 100 MIPS.** (Emphasis
added).
Thus, it is clear that Bauer "utilizing threshold" is determined/defined in "real time" or

"current" resource utilization of acceptable threshold. Thus, Bauer does not teach away.

Regarding Philips reference on page 9, the applicant assumption is correct since it is

merely a typographical error, which has being corrected to Bauer.

Conclusion

6.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Ian N. Moore whose telephone number is 571-272-3085. The

examiner can normally be reached on 9:00 AM- 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chau Nguyen can be reached on 571-272-3126. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

INM
12-20-05

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